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| ctt agg a Leu Arg M | tg gga Met Gly 20 | ctt Leu | aat Asn | gat Asp | aat Asn | aaa Lys 25 | gca Ala | gga Gly | atg Met | gaa Glu | gga Gly 30 | tta Leu | gat Asp | 96 |
| aaa gag a Lys Glu L | aa att ys Ile 35 | aac Asn | aaa Lys | att Ile | ata Ile 40 | atg Met | gaa Glu | gcc Ala | acg Thr | aag Lys 45 | gly aaa | tcc Ser | aga Arg | 144 |
| ttt tat g Phe Tyr G 50 | ga aat Sly Asn | gag Glu | ctc Leu | aag Lys 55 | aaa Lys | gaa Glu | aag Lys | caa Gln | gtc Val 60 | aac Asn | caa Gln | cga Arg | att Ile | 192 |

| gaa Glu 65 | aat Asn | atg Met | atg Met | caa Gln | caa Gln 70 | aaa Lys | gct Ala | caa Gln | atc Ile | acc Thr 75 | agc Ser | caa Gln | cag Gln | cta Leu | aga Arg 80 | 240 |
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| aaa Lys | gca Ala | caa Gln | tta Leu | cag Gln 85 | gtt Val | gac Asp | aga Arg | ttt Phe | gca Ala 90 | atg Met | gaa Glu | tta Leu | gaa Glu | caa Gln 95 | agc Ser | 288 |
| cga Arg | aat Asn | ttg Leu | agc Ser 100 | aat Asn | acc Thr | ata Ile | gtg Val | cac His 105 | att Ile | gac Asp | atg Met | gat Asp | gct Ala 110 | ttc Phe | tat Tyr | 336 |
| gca Ala | gct Ala | gta Val 115 | gaa Glu | atg Met | agg Arg | gac Asp | aat Asn 120 | cca Pro | gaa Glu | ttg Leu | aag Lys | gat Asp 125 | aaa Lys | ccc Pro | att Ile | 384 |
| gct Ala | gta Val 130 | gga Gly | tca Ser | atg Met | agt Ser | atg Met 135 | ctg Leu | tct Ser | act Thr | tca Ser | aat Asn 140 | tac Tyr | cat His | gca Ala | agg Arg | 432 |
| aga Arg 145 | ttt Phe | ggt Gly | gtt Val | cgt Arg | gca Ala 150 | gcc Ala | atg Met | cca Pro | gga Gly | ttt Phe 155 | att Ile | gct Ala | aag Lys | agg Arg | ctg Leu 160 | 480 |
| tgc Cys | cca Pro | caa Gln | ctt Leu | ata Ile 165 | ata Ile | gtg Val | ccc Pro | ccc Pro | aac Asn 170 | ttt Phe | gac Asp | aaa Lys | tac Tyr | cga Arg 175 | gct Ala | 528 |
| gtg Val | agt Ser | aaa Lys | gag Glu 180 | gtt Val | aag Lys | gaa Glu | ata Ile | ctt Leu 185 | gct Ala | gat Asp | tat Tyr | gat Asp | ccc Pro 190 | aat Asn | ttt Phe | 576 |
| atg Met | gcc Ala | atg Met 195 | agt Ser | ctt Leu | gat Asp | gaa Glu | gcc Ala 200 | tac Tyr | ttg Leu | aat Asn | ata Ile | aca Thr 205 | aag Lys | cac His | tta Leu | 624 |
| gaa Glu | gaa Glu 210 | aga Arg | caa Gln | aat Asn | tgg Trp | cct Pro 215 | gag Glu | gat Asp | aaa Lys | aga Arg | agg Arg 220 | tat Tyr | ttc Phe | atc Ile | aaa Lys | 672 |
| atg Met 225 | Gly | agc Ser | tct Ser | gta Val | gaa Glu 230 | Asn | gat Asp | aat Asn | cca Pro | gga Gly 235 | aag Lys | gaa Glu | gtt Val | aat Asn | aaa Lys 240 | 720 |
| ctg Leu | agt Ser | gag Glu | cat His | gaa Glu 245 | Arg | tcc Ser | atc Ile | tct Ser | cca Pro 250 | Leu | ctt Leu | ttt Phe | gaa Glu | gag Glu 255 | agt Ser | 768 |
| cct Pro | tct Ser | gat Asp | gtg Val 260 | Gln | ccc Pro | cca Pro | gga Gly | gat Asp 265 | cct Pro | ttc Phe | caa Gln | gtg Val | aac Asn 270 | Phe | gaa Glu | 816 |
| gaa Glu | caa Gln | aac Asn 275 | Asn | cct Pro | caa Gln | ata Ile | ctc Leu 280 | Gln | aac Asn | tca Ser | gtt Val | gtt Val 285 | Phe | gga Gly | aca Thr | 864 |

| tca Ser | gcc Ala 290 | cag Gln | gaa Glu | gtg Val | gta Val | aag Lys 295 | gaa Glu | att Ile | cgt Arg | ttc Phe | aga Arg 300 | att Ile | gag Glu | cag Gln | aaa Lys | 912 |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| aca Thr 305 | aca Thr | ctg Leu | aca Thr | gcc Ala | agt Ser 310 | gca Ala | ggt Gly | gtt Val | cgg Arg | ata Ile 315 | tct Ser | agt Ser | ttt Phe | ccc Pro | aat Asn 320 | 960 |
| gaa Glu | gag Glu | gac Asp | agg Arg | aaa Lys 325 | cac His | caa Gln | caa Gln | agg Arg | agc Ser 330 | att Ile | att Ile | ggc Gly | ttt Phe | tta Leu 335 | cag Gln | 1008 |
| gct Ala | gga Gly | aac Asn | caa Gln 340 | gcc Ala | ctg Leu | tca Ser | gcc Ala | act Thr 345 | gag Glu | tgt Cys | aca Thr | tta Leu | gag Glu 350 | aaa Lys | act Thr | 1056 |
| gac Asp | aaa Lys | gat Asp 355 | aag Lys | ttt Phe | gta Val | aaa Lys | cct Pro 360 | cta Leu | gaa Glu | atg Met | tct Ser | cat His 365 | aag Lys | aag Lys | agt Ser | 1104 |
| ttc Phe | ttt Phe 370 | gat Asp | aaa Lys | aaa Lys | cga Arg | tca Ser 375 | gaa Glu | agg Arg | aaa Lys | tgg Trp | agt Ser 380 | cac His | caa Gln | gat Asp | aca Thr | 1152 |
| ttt Phe 385 | aaa Lys | tgt Cys | gaa Glu | gcc Ala | gtg Val 390 | aat Asn | aaa Lys | caa Gln | agt Ser | ttc Phe 395 | cag Gln | aca Thr | tca Ser | caa Gln | cca Pro 400 | 1200 |
| ttc Phe | caa Gln | gtt Val | tta Leu | aag Lys 405 | aag Lys | aag Lys | atg Met | aat Asn | gag Glu 410 | aat Asn | ttg Leu | gaa Glu | ata Ile | tca Ser 415 | gag Glu | 1248 |
| aat Asn | tca Ser | gat Asp | gac Asp 420 | tgt Cys | cag Gln | ata Ile | ctt Leu | acc Thr 425 | tgt Cys | cct Pro | gtt Val | tgc Cys | ttt Phe 430 | agg Arg | gct Ala | 1296 |
| caa Gln | gly ggg | tgc Cys 435 | atc Ile | agt Ser | ctg Leu | gaa Glu | gcc Ala 440 | ttg Leu | aat Asn | aaa Lys | cat His | gta Val 445 | gat Asp | gaa Glu | tgt Cys | 1344 |
| ctt Leu | gat Asp 450 | gga Gly | cct Pro | tca Ser | atc Ile | agt Ser 455 | gaa Glu | aac Asn | ttt Phe | aaa Lys | atg Met 460 | Phe | tcg Ser | tgt Cys | tca Ser | 1392 |
| | Val | | | | | | | | | | . Asn | | | | tct Ser 480 | 1440 |
| tca Ser | ctt Leu | tgt Cys | gag Glu | aag Lys 485 | caa Gln | gat Asp | tat Tyr | gaa Glu | gcc Ala 490 | His | cca Pro | aaa Lys | att Ile | aaa Lys 495 | gaa Glu | 1488 |
| | | | | Asp | | | | | . Val | | | | | Asn | tca Ser | 1536 |
| tct | aaa | gca | gaa | agc | ata | gat | gct | tta | agt | aat | aag | cat | ago | aag | gaa | 1584 |

| Ser | Lys | Ala 515 | Glu | Ser | Ile | Asp | Ala 520 | Leu | Ser | Asn | Lys | His 525 | Ser | Lys | Glu | |
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| gaa Glu | tgt Cys 530 | tct Ser | agt Ser | ctc Leu | cca Pro | agc Ser 535 | aag Lys | tct Ser | ttt Phe | aat Asn | att Ile 540 | gaa Glu | cac His | tgt Cys | cat His | 1632 |
| cag Gln 545 | aat Asn | tct Ser | tct Ser | tct Ser | act Thr 550 | gtt Val | tca Ser | ttg Leu | gaa Glu | aac Asn 555 | gaa Glu | gat Asp | gtt Val | gga Gly | tca Ser 560 | 1680 |
| ttt Phe | aga Arg | caa Gln | gaa Glu | tac Tyr 565 | cgc Arg | cag Gln | cct Pro | tac Tyr | tta Leu 570 | tgt Cys | gaa Glu | gtg Val | aaa Lys | aca Thr 575 | ggc Gly | 1728 |
| caa Gln | gct Ala | cta Leu | gtt Val 580 | tgt Cys | cct Pro | gtt Val | tgt Cys | aac Asn 585 | gta Val | gaa Glu | caa Gln | aag Lys | act Thr 590 | tca Ser | gat Asp | 1776 |
| cta Leu | acc Thr | ctg Leu 595 | ttc Phe | aat Asn | gtg Val | cat His | gtg Val 600 | gat Asp | gtt Val | tgc Cys | tta Leu | aat Asn 605 | aaa Lys | agt Ser | ttt Phe | 1824 |
| atc Ile | caa Gln 610 | gaa Glu | tta Leu | aga Arg | aag Lys | gat Asp 615 | aaa Lys | ttt Phe | aac Asn | cca Pro | gtt Val 620 | aat Asn | caa Gln | ccc Pro | aaa Lys | 1872 |
| gaa Glu 625 | agc Ser | tcc Ser | aga Arg | agt Ser | act Thr 630 | ggt Gly | agc Ser | tca Ser | agt Ser | gga Gly 635 | gta Val | cag Gln | aag Lys | gct Ala | gta Val 640 | 1920 |
| aca Thr | aga Arg | aca Thr | aaa Lys | agg Arg 645 | cca Pro | gga Gly | ttg Leu | atg Met | aca Thr 650 | aag Lys | tac Tyr | tca Ser | aca Thr | tca Ser 655 | aag Lys | 1968 |
| aaa Lys | ata Ile | aaa Lys | cca Pro 660 | Asn | aat Asn | ccc Pro | aaa Lys | cat His 665 | Thr | ctt Leu | gat Asp | ata Ile | ttt Phe 670 | ttt Phe | aag Lys | 2016 |
| taa | gtcg | acc | | | | | | | | | | | | | | 2026 |
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| | _ | | Thr | Lys 5 | | Lys | Cys | Asp | Ser 10 | | . Lys | a Asp | Asp | Leu 15 | Leu | |
| Leu | Arg | Met | Gly 20 | | Asn | Asp | Asn | Lys 25 | | . Gly | Met | : Glu | Gly 30 | | Asp | |
| Lys | Glu | Lys 35 | | . Asn | Lys | Ile | : Ile | | Glu | Ala | Thr | Lys 45 | | Ser | Arg | |

- Phe Tyr Gly Asn Glu Leu Lys Lys Glu Lys Gln Val Asn Gln Arg Ile 50 55 60
- Glu Asn Met Met Gln Gln Lys Ala Gln Ile Thr Ser Gln Gln Leu Arg
 65 70 75 80
- Lys Ala Gln Leu Gln Val Asp Arg Phe Ala Met Glu Leu Glu Gln Ser 85 90 95
- Arg Asn Leu Ser Asn Thr Ile Val His Ile Asp Met Asp Ala Phe Tyr
- Ala Ala Val Glu Met Arg Asp Asn Pro Glu Leu Lys Asp Lys Pro Ile 115 120 125
- Ala Val Gly Ser Met Ser Met Leu Ser Thr Ser Asn Tyr His Ala Arg 130 135 140
- Arg Phe Gly Val Arg Ala Ala Met Pro Gly Phe Ile Ala Lys Arg Leu 145 150 155 160
- Cys Pro Gln Leu Ile Ile Val Pro Pro Asn Phe Asp Lys Tyr Arg Ala 165 170 175
- Val Ser Lys Glu Val Lys Glu Ile Leu Ala Asp Tyr Asp Pro Asn Phe 180 185 190
- Met Ala Met Ser Leu Asp Glu Ala Tyr Leu Asn Ile Thr Lys His Leu 195 200 205
- Glu Glu Arg Gln Asn Trp Pro Glu Asp Lys Arg Arg Tyr Phe Ile Lys 210 215 220
- Met Gly Ser Ser Val Glu Asn Asp Asn Pro Gly Lys Glu Val Asn Lys 225 230 235 240
- Leu Ser Glu His Glu Arg Ser Ile Ser Pro Leu Leu Phe Glu Glu Ser 245 250 255
- Pro Ser Asp Val Gln Pro Pro Gly Asp Pro Phe Gln Val Asn Phe Glu 260 265 270
- Glu Gln Asn Asn Pro Gln Ile Leu Gln Asn Ser Val Val Phe Gly Thr 275 280 285
- Ser Ala Gln Glu Val Val Lys Glu Ile Arg Phe Arg Ile Glu Gln Lys 290 295 300
- Thr Thr Leu Thr Ala Ser Ala Gly Val Arg Ile Ser Ser Phe Pro Asn 305 310 315 320
- Glu Glu Asp Arg Lys His Gln Gln Arg Ser Ile Ile Gly Phe Leu Gln 325 330 335
- Ala Gly Asn Gln Ala Leu Ser Ala Thr Glu Cys Thr Leu Glu Lys Thr 340 345 350

- Asp Lys Asp Lys Phe Val Lys Pro Leu Glu Met Ser His Lys Lys Ser 355 360 365
- Phe Phe Asp Lys Lys Arg Ser Glu Arg Lys Trp Ser His Gln Asp Thr 370 375 380
- Phe Lys Cys Glu Ala Val Asn Lys Gln Ser Phe Gln Thr Ser Gln Pro 385 390 395 400
- Phe Gln Val Leu Lys Lys Lys Met Asn Glu Asn Leu Glu Ile Ser Glu
 405 410 415
- Asn Ser Asp Asp Cys Gln Ile Leu Thr Cys Pro Val Cys Phe Arg Ala 420 425 430
- Gln Gly Cys Ile Ser Leu Glu Ala Leu Asn Lys His Val Asp Glu Cys 435 440 445
- Leu Asp Gly Pro Ser Ile Ser Glu Asn Phe Lys Met Phe Ser Cys Ser 450 455 460
- His Val Ser Ala Thr Lys Val Asn Lys Lys Glu Asn Val Pro Ala Ser 465 470 475 480
- Ser Leu Cys Glu Lys Gln Asp Tyr Glu Ala His Pro Lys Ile Lys Glu 485 490 495
- Ile Ser Ser Val Asp Cys Ile Ala Leu Val Asp Thr Ile Asp Asn Ser 500 505 510
- Ser Lys Ala Glu Ser Ile Asp Ala Leu Ser Asn Lys His Ser Lys Glu 515 520 525
- Glu Cys Ser Ser Leu Pro Ser Lys Ser Phe Asn Ile Glu His Cys His 530 535 540
- Gln Asn Ser Ser Ser Thr Val Ser Leu Glu Asn Glu Asp Val Gly Ser 545 550 555 560
- Phe Arg Gln Glu Tyr Arg Gln Pro Tyr Leu Cys Glu Val Lys Thr Gly 565 570 575
- Gln Ala Leu Val Cys Pro Val Cys Asn Val Glu Gln Lys Thr Ser Asp 580 585 590
- Leu Thr Leu Phe Asn Val His Val Asp Val Cys Leu Asn Lys Ser Phe 595 600 605
- Ile Gln Glu Leu Arg Lys Asp Lys Phe Asn Pro Val Asn Gln Pro Lys 610 615 620
- Glu Ser Ser Arg Ser Thr Gly Ser Ser Ser Gly Val Gln Lys Ala Val 625 630 635 640
- Thr Arg Thr Lys Arg Pro Gly Leu Met Thr Lys Tyr Ser Thr Ser Lys
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Lys Ile Lys Pro Asn Asn Pro Lys His Thr Leu Asp Ile Phe Phe Lys 660 665 670

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